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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
DWIVEDI, MAHESH H	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,956	REVEL, DANIEL	
	Examiner	Art Unit	
	Mahesh H. Dwivedi	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7,9-14,18-22 and 35-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7,9-14,18-22 and 35-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt of Applicant's Amendment, filed on 02/05/2007, is acknowledged. The amendment includes the cancellation of claims 4, 6, 8, 23, and 27-28, the withdrawal of claims 15-17, 24-26, and 29-34, the addition of claims 38-41, and the amending of claims 1, 7, 18, and 35.

Claim Rejections - 35 USC § 101

2. The rejections raised in the office action mailed on 10/05/2006 have been overcome by the applicant's amendments received on 02/05/2007.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 5-7, 11-12, 14, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tang et al.** (U.S. PGPUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713).

5. Regarding claim 1, **Tang** teaches a method comprising:

B) receiving at a server a request for information from a requestor (Paragraphs 27 and 30, Figures 2-3);

C) wherein the request is in compressed form (Paragraphs 27 and 30-31, Figures 2-3);

D) decompressing the received request for information at the server (Paragraphs 24 and 27, Figures 2-3);

F) compressing the requested information at a server (Paragraphs 36-37).

The examiner notes that **Tang** teaches **"receiving at a server a request for information from a requestor"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30) and "Upon receiving a request from the client, the proxy looks up code space indexed according to the server" (Paragraph 31). The examiner further notes that **Tang** teaches **"wherein the request is in compressed form"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30). The examiner further notes that **Tang** teaches **"decompressing the received request for information at the server"** as "A code space provides a translation dictionary to translate a compressed token to an uncompressed text phase" (Paragraph 24) and "a proxy receives the compressed request from the client decompresses the compressed data, and communicates the decompressed data to an appropriate destination server" (Paragraph 30). The examiner further notes that **Tang** teaches **"compressing the requested information at a server"** as "The proxy compresses the document from the server" (Paragraph 36) and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37).

Tang does not explicitly teach:

A) caching a compression dictionary at a server;

C & F) using the cached compression dictionary;

E) processing the decompressed request at the server so as to generate requested information at the server.

G) sending the compressed information to the requestor with an identifier of the compression dictionary.

Unger, however, teaches **"caching a compression dictionary at a server"** as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55), **"using the cached compression dictionary"** as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42), **"processing the decompressed request at the server so as to generate requested information at the server"** as "A proxy is an intermediate program running on a computer in the internet that accepts requests from client computers (or other proxy servers) in the network, that performs some processing and then passes some or all of the requests either as transformed by the intermediate processing or intact onto another server (or another proxy server). Such a proxy may be located in any computer that lies anywhere logically in the path between the client computer 10 and the server computer 12 including but not limited to computers provided by the intemet access provider 14 (which may be an intemet service provider or a server on a local area network) and also either in the client computer 10 or the server computer" (Column 13, lines 41-53) and "Therefore, the remote server 12 must decompress and decompile the requested data within the stored, compiled file 52 prior to transmission to the requester. When a remote server 12 receives a request from a proxy with the detectable modified address (URL), it transmits all or part of the requested information in the compiled and compressed form" (Column 14, lines 11-17), and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55), and **"sending the compressed information to the requestor with an identifier of the compression dictionary"** as "when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted" (Column 15, lines 38-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large

dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 5, **Tang** further teaches a method comprising:

A) creating a compression dictionary (Paragraph 35).

The examiner further notes that **Tang** teaches **"creating a compression dictionary"** as "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier" (Paragraph 35).

Regarding claim 7, **Tang** teaches a method comprising:

B) compressing a request for information at the client using the cached compression dictionary (Paragraphs 27 and 30-31, Figures 2-3);

C) sending the compressed request for information from the client to a server (Paragraphs 27 and 30-31, Figures 2-3);

D) receiving at the client the requested information from the server (Paragraphs 24, and 36-37);

E) and compressed by the server (Paragraphs 24, and 36-37); and

F) decompressing the requested information at the client using the cached compression dictionary (Paragraphs 36-37).

The examiner notes that **Tang** teaches **"compressing a request for information at the client using the cached compression dictionary"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30) and "Upon receiving a request from the client, the proxy looks up code space indexed according to the server" (Paragraph 31). The examiner further notes that **Tang** teaches **"sending the compressed request for information from the client to a server"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30). The

examiner further notes that **Tang** teaches **"receiving at the client the requested information from the server, wherein the information received is compressed"** as "A code space provides a translation dictionary to translate a compressed token to an uncompressed text phase" (Paragraph 24), "The proxy compresses the document from the server using code space in step 380" (Paragraph 30), and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37). The examiner further notes that **Tang** teaches **"and compressed by the server"** as "In a step 360, the server receives the uncompressed request from the proxy and, in a step 370, an uncompressed response is communicated to the proxy. The proxy determines if a code space exists to compress the response. If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier (ID) (Paragraph 35) and "The proxy compresses the document from the server using code space in a step 380. The document is compressed using the correct code space and a code space version or ID header, which is included in the response to the client" (Paragraph 36). The examiner further notes that **Tang** teaches **"decompressing the requested information at the client using the cached compression dictionary"** as "The proxy compresses the document from the server" (Paragraph 36) and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37).

Tang does not explicitly teach:

A) caching a compression dictionary at a client;

E) wherein the information received is generated by the server in response to the request.

Unger, however, teaches **"caching a compression dictionary at a client"** as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column1 5, lines 54-55) and **"wherein the information received is generated by the server in response to the request"** as "A proxy is an intermediate program running on a computer in the internet that accepts requests from client computers (or other proxy servers) in the network, that performs some processing and then passes some or all of the requests either as

transformed by the intermediate processing or intact onto another server (or another proxy server). Such a proxy may be located in any computer that lies anywhere logically in the path between the client computer 10 and the server computer 12 including but not limited to computers provided by the intemet access provider 14 (which may be an intemet service provider or a server on a local area network) and also either in the client computer 10 or the server computer" (Column 13, lines 41-53) and "Therefore, the remote server 12 must decompress and decompile the requested data within the stored, compiled file 52 prior to transmission to the requester. When a remote server 12 receives a request from a proxy with the detectable modified address (URL), it transmits all or part of the requested information in the compiled and compressed form" (Column 14, lines 11-17), and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 11, **Tang** further teaches a method comprising:

A) obtaining a compression dictionary (Paragraph 35).

The examiner further notes that **Tang** teaches **"obtaining a compression dictionary"** as "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier" (Paragraph 35).

Regarding claim 12, **Tang** does not explicitly teach a method comprising:

A) wherein the information received comprises a compression dictionary identifier;

B) using the compression dictionary identifier included with the information received to determine if the proper compression dictionary is cached; and

C) obtaining the proper compression dictionary if the proper compression dictionary is not in cache.

Unger, however, teaches **"wherein the information received comprises a compression dictionary identifier"** as "when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted" (Column 15, lines 38-41), **"using the compression dictionary identifier included with the information received to determine if the proper compression dictionary is cache"** as "A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one supplemental dictionary including the parsed words that are not present in the predetermined dictionary" (Column 2, lines 44-48), and **"obtaining the proper compression dictionary if the proper compression dictionary is not in cache"** as ""A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one supplemental dictionary including the parsed words that are not present in the predetermined dictionary" (Column 2, lines 44-48)".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 14, **Tang** further teaches a method comprising:

A) wherein the compression dictionary is retrieved from a network location different from the server and the client (Paragraph 35).

Regarding claim 35, **Tang** teaches a method comprising:

A) creating a compression dictionary tailored for selected information (Paragraph 35);

B) receiving at a server a request for at least a portion of the selected information from a requestor (Paragraphs 27 and 30, Figures 2-3);
C) wherein the request is in compressed form (Paragraphs 27 and 30-31, Figures 2-3);
D) decompressing the received request at the server using the compression dictionary (Paragraphs 24 and 27, Figures 2-3);
F) dynamically compressing the customized requested information at the server using the compression dictionary (Paragraphs 36-38).

The examiner notes that **Tang** teaches **"creating a compression dictionary tailored for selected information"** as "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier" (Paragraph 35). The examiner further notes that **Tang** teaches **"receiving at a server a request for at least a portion of the selected information from a requestor"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30) and "Upon receiving a request from the client, the proxy looks up code space indexed according to the server" (Paragraph 31). The examiner further notes that **Tang** teaches **"wherein the request is in compressed form"** as "In a step 310, a client creates a compressed request. The compressed request can be a request for a document, such as, an XML document to be communicated over a network from a certain server" (Paragraph 30). The examiner further notes that **Tang** teaches **"decompressing the received request at the server using the compression dictionary"** as "A code space provides a translation dictionary to translate a compressed token to an uncompressed text phase" (Paragraph 24) and "a proxy receives the compressed request from the client decompresses the compressed data, and communicates the decompressed data to an appropriate destination server" (Paragraph 30). The examiner further notes that **Tang** teaches **"dynamically compressing the customized requested information at the server using the compression dictionary"** as "The proxy compresses the document from the server" (Paragraph 36) and "In a step 385, the proxy communicates the compressed response to the client" (Paragraph 37).

Tang does not explicitly teach:

E) customizing the information for the requestor at the server;

G) sending the compressed information from the server to the requestor with an identifier of the compression dictionary (Paragraph 44, Figures 5-6).

Unger, however, teaches **"customizing the information for the requestor at the server"** as "A proxy is an intermediate program running on a computer in the internet that accepts requests from client computers (or other proxy servers) in the network, that performs some processing and then passes some or all of the requests either as transformed by the intermediate processing or intact onto another server (or another proxy server). Such a proxy may be located in any computer that lies anywhere logically in the path between the client computer 10 and the server computer 12 including but not limited to computers provided by the intemet access provider 14 (which may be an intemet service provider or a server on a local area network) and also either in the client computer 10 or the server computer" (Column 13, lines 41-53) and "Therefore, the remote server 12 must decompress and decompile the requested data within the stored, compiled file 52 prior to transmission to the requester. When a remote server 12 receives a request from a proxy with the detectable modified address (URL), it transmits all or part of the requested information in the compiled and compressed form" (Column 14, lines 11-17), and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column 15, lines 54-55) and **"sending the compressed information from the server to the requestor with an identifier of the compression dictionary"** as "when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted" (Column 15, lines 38-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data

compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 36, **Tang** further teaches a method comprising:

A) publishing the compression dictionary to a network resource different from the server and the requestor (Paragraph 35).

6. Claims 2-3 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tang et al.** (U.S. PGPUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 1, 5-7, 11-12, 14, and 35-36 above, and further in view of **Jakopac et al.** (U.S. PGPUB 2002/0029229).

7. Regarding claims 2 and 9, **Tang** and **Unger** do not explicitly teach a method comprising:

A) wherein the compressed information is decompressed directly to an object model document.

Jakopac, however, teaches **"wherein the compressed information is decompressed directly to an object model document"** as "the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files" (Paragraph 70) and "An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes" (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac's** would have allowed **Tang's** and **Unger's** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Regarding claims 3 and 10, **Tang** and **Unger** do not explicitly teach a method comprising:

A) wherein the object model comprises Document Object Model (DOM).

Jakopac, however, teaches **"wherein the object model comprises Document Object Model (DOM)"** as "the systems and methods of this invention can be

implemented based on the DOM that supports inflation of compressed files" (Paragraph 70) and "An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes" (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac's** would have allowed **Tang's** and **Unger's** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

8. Claims 13, 18-19, 22-23, and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tang et al.** (U.S. PGPUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 1, 5-7, 11-12, 14, and 35-36 above, and further in view of **Girardot et al.** (U.S. PGPUB 2003/0023628).

9. Regarding claim 13, **Tang** and **Unger** do not explicitly teach a method comprising:

A) wherein calculating a compression dictionary identifier may include determining the identifier using a derived hash value for the dictionary.

Girardot, however, teaches **"wherein calculating a compression dictionary identifier may include determining the identifier using a derived hash value for the dictionary"** as "For example, to convert strings into tokens quickly, strings must be found quickly in a table. For this, it is better to use a hash table where the keys are the strings and the values are the corresponding tokens" (Paragraph 121).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Tang's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 18, **Tang** teaches a method comprising:

A) creating a compression dictionary from a web services description language (Paragraphs 3, 35, and 37-38);
C) retrieving the compression dictionary from the network resource (Paragraph 32); and
E) compressing and decompressing messages received from or sent to the web service according to the compression dictionary (Paragraphs 33-36).

The examiner notes that **Tang** teaches **"creating a compression dictionary from a web services description language"** as "Documents or data, such as XML documents or data, can be communicated using Remote Procedure Call (RPC) protocols. One known RPC method is Simple Object Access Protocol (SOAP). SOAP is a set of conventions for invoking code using XML over HTTP. The SOAP protocol specification mandates the use of a small number of HTTP headers to facilitate firewall/proxy filtering. The SOAP specification also mandates an XML vocabulary that is used for representing method parameters, return values, and exceptions" (Paragraph 3), "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or identifier" (Paragraph 35), and "The client determines from the proxy header if the client already has the correct code space to decompress the received document. A header can be understood as a prelude to an HTML request that helps describe the contents of the HTML request so that it may be processed correctly. An example of an existing HTML header is: "Content-Length: 650". This particular header describes how long the request package is. In an exemplary embodiment, a header, such as "Compression-Proxy: CodeSpaceVersion=request:005, ProxyVersion=1.0, DestinationURL=www.infowave.com/SOAP.po" can be suitable. The codespace version attribute can specify the version of the dictionary to be used for www.infowave.com/soap.po. The proxy version can state the minimum proxy version required to handle the request. The destination URL is the intended server to receive the request" (Paragraph 37-38). The examiner further notes that it is common knowledge that soap protocol is associated with wsdl. The examiner further notes that **Tang** teaches **"retrieving the compression dictionary from the network resource"** as "If the code space is not available, the server responds to the client with a request for

the code space. The client can reply with the requested data" (Paragraph 32). The examiner further notes that **Tang** teaches **"compressing and decompressing messages received from or sent to the web service according to the compression dictionary"** as "The proxy compresses the document from the server" (Paragraph 36) and "the proxy decompresses the document" (Paragraph 33).

Tang does not explicitly teach:

B) publishing the compression dictionary on a network resource, wherein the compression dictionary is retrievable via an HTTP get request to the web service; and

D) caching the compression dictionary; and

F) wherein the messages include markup tags.

Unger, however, teaches **"publishing the compression dictionary on a network resource, wherein the compression dictionary is retrievable via an HTTP get request to the web service"** as "when files compressed by the above methods are transmitted in a distributed system the unique identifications of the required dictionaries that were employed in the compression can be transmitted" (Column 15, lines 38-41), **"caching a compression dictionary"** as "If the receiving computer does not already have copies of those dictionaries either cached" (Column 15, lines 41-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column1 5, lines 54-55), and **"wherein the messages include markup tags"** as "HTML files include a plurality of tags" (Column 4, lines 11-12) and "The tags used in HTML allow a user to identify many different types of text" (Column 4, lines 26-27).

The examiner notes that a **"distributed system"** (Column 15, line 39) is analogous to a presenting information on a publicly accessible network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data

compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Tang and **Unger** do not explicitly teach:

G) wherein the markup tags are compressed and decompressed.

Girardot, however, teaches **"wherein the markup tags are compressed and decompressed"** as "the system comprises a client which generates XML-RPC requests in a compression format which encodes tags, attributes ad attribute value tokens rather than strings and transmits the request to a server" (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Tang's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 19, **Tang** and **Unger** do not explicitly teach a method comprising:

A) wherein the compression dictionary comprises compressed representations of Extensible Markup Language (XML) tags.

Girardot, however, teaches **"wherein the compression dictionary comprises compressed representations of Extensible Markup Language (XML) tags"** as "The tag code space represents specific tag names. Each tag token is a single-byte...between the code pages" (Paragraph 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Tang's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

Regarding claim 22, **Tang** does not explicitly teach a method comprising:

A) creating a list of one or more files;

B) extracting portions of the files from the list of one or more files;

C) creating a compression dictionary including portions extracted from the one or more files.

Unger, however, teaches **"creating a list of one or more files"** as "The method includes steps of parsing words from text in an input file and comparing parsed words to a predetermined dictionary" (Column 2, lines 40-42), **"extracting portions of the files from the list of one or more files"** as "The method includes steps of parsing words from text in an input file and comparing parsed words to a predetermined dictionary" (Column 2, lines 40-42) and "there is a similar advantage that accrues when a caching mechanism is employed for the dictionaries" (Column1 5, lines 54-55), and **"creating a compression dictionary including portions extracted from the one or more files"** as "A further step is determining which of the parsed words are not present in the predetermined dictionary and creating at least one supplemental dictionary including the parsed words that are not present in the predetermined dictionary" (Column 2, lines 44-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 37, **Tang** does not explicitly teach a method comprising:

A) wherein the markup tags comprise Extensible Markup Language (XML) tags.

Unger, however, teaches **"wherein the markup tags comprise Extensible Markup Language (XML) tags"** as "The methods used to determine the scope of

hypertext material, such as but not limited to tagged HTML, SGML, or XML files" (Column 5, lines 1-3)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Regarding claim 38, **Tang** further teaches a method comprising:
A) wherein the HTTP get request to the web service includes an identifier associated with a prestored compression dictionary (Paragraphs 22 and 31).

The examiner notes that **Tang** teaches **"wherein the HTTP get request to the web service includes an identifier associated with a prestored compression dictionary"** as "In an exemplary embodiment, client 110 can communicate a compressed XML document to proxy 120 with an indication of a destination server recipient. In this original client request, headers can be included indicating the address of the intended server and a code space or dictionary version or identification (ID). Proxy 120 translates the compressed XML document to an uncompressed XML document and communicates the uncompressed XML document to server 130. This translation is transparent to client 110 and server 130" (Paragraph 22) and "Upon receiving a request from the client, the proxy looks up code space indexed according to the server URL in a step 330. Code space can be identified using headers in the communication from the client to the proxy. In an alternative embodiment, the code space can be included in the message communicated from the client to the proxy. As such, versioning is not necessary" (Paragraph 31).

Regarding claim 39, **Tang** further teaches a method comprising:

A) wherein the retrieving is not performed if the web service determines from the identifier that the prestored compression dictionary is acceptable for the compressing and decompressing the messages (Paragraph 25).

The examiner notes that **Tang** teaches **"wherein the HTTP get request to the web service includes an identifier associated with a prestored compression dictionary"** as "Server 130 processes the request and returns the response to proxy 120. Proxy 120 then determines if a code space exists to compress the reply. If not, proxy 120 dynamically generates a new code space, and supply it with a new version or ID. The reply is then compressed with the correct code space, and a code space version or ID header is generated, and included in the response to client 110. The compressed document is sent to client 110, and processed. Client 110 determines from the proxy header if it already has the correct code space to decompress the document it has received. If not, it must request one from proxy 120. The document can be decompressed and processed, or natively processed" (Paragraph 25).

Regarding claim 40, **Tang** further teaches a method comprising:
A) publishing the web services description language on the network resource, wherein the web services description language is accessible via an HTTP get request to the web services (Paragraphs 3, 25, 35, and 37-38

The examiner notes that **Tang** teaches **"publishing the web services description language on the network resource, wherein the web services description language is accessible via an HTTP get request to the web services"** as "Documents or data, such as XML documents or data, can be communicated using Remote Procedure Call (RPC) protocols. One known RPC method is Simple Object Access Protocol (SOAP). SOAP is a set of conventions for invoking code using XML over HTTP. The SOAP protocol specification mandates the use of a small number of HTTP headers to facilitate firewall/proxy filtering. The SOAP specification also mandates an XML vocabulary that is used for representing method parameters, return values, and exceptions" (Paragraph 3), "If the code space is not available, the proxy dynamically generates a new code space and supplies it with a new version or

identifier" (Paragraph 35), and "The client determines from the proxy header if the client already has the correct code space to decompress the received document. A header can be understood as a prelude to an HTML request that helps describe the contents of the HTML request so that it may be processed correctly. An example of an existing HTML header is: "Content-Length: 650". This particular header describes how long the request package is. In an exemplary embodiment, a header, such as "Compression-Proxy: CodeSpaceVersion=request:005, ProxyVersion=1.0, DestinationURL=www.infowave.com/SOAP.po" can be suitable. The codespace version attribute can specify the version of the dictionary to be used for www.infowave.com/soap.po. The proxy version can state the minimum proxy version required to handle the request. The destination URL is the intended server to receive the request" (Paragraph 37-38). The examiner further notes that it is common knowledge that soap protocol is associated with wsdl.

Regarding claim 41, **Tang** does not explicitly teach a method comprising:
A) wherein creating includes determining Extensible Markup Language (XML) tags for messages supported by the web service.

Unger, however, teaches **"wherein creating includes determining Extensible Markup Language (XML) tags for messages supported by the web service"** as "HTML files include a plurality of tags" (Column 4, lines 11-12) and "The tags used in HTML allow a user to identify many different types of text" (Column 4, lines 26-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Unger's** would have allowed **Tang's** to provide a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Tang and **Unger** do not explicitly teach:
B) generating compressed representations of the tags for the compression dictionary.

Girardot, however, teaches **"generating compressed representations of the tags for the compression dictionary"** as "the system comprises a client which generates XML-RPC requests in a compression format which encodes tags, attributes ad attribute value tokens rather than strings and transmits the request to a server" (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Girardot's** would have allowed **Tang's** and **Unger's** to provide a compression/decompression technique which allows for both an offline and online approach in order to retain the structure of XML documents, as noted by **Girardot** (Paragraph 11).

10. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tang et al.** (U.S. PGPUB 2003/0154308) and in view of **Unger et al.** (U.S. Patent 5,991,713) as applied to claims 1, 5-7, 11-12, 14, and 35-36 above, and further in view of **Girardot et al.** (U.S. PGPUB 2003/0023628) as applied to claims 13, 18-19, 22-23, and 37-41, and further in view of **Jakopac et al.** (U.S. PGPUB 2002/0029229).

11. Regarding claim 20, **Tang**, **Unger**, and **Girardot** do not explicitly teach a method comprising:

A) wherein the compressing and decompressing messages comprises compressing and decompressing messages directly to and from an object model document.

Jakopac, however, teaches **"wherein the compressing and decompressing messages comprises compressing and decompressing messages directly to and from an object model document"** as "the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files" (Paragraph 70) and "An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes" (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac's** would have allowed **Tang'**, **Unger's**, **and Giradot's** to provide applications

to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Regarding claim 21, **Tang**, **Unger**, and **Girardot** do not explicitly teach a method comprising:

A) wherein the object model comprises Document Object Model (DOM).

Jakopac, however, teaches **"wherein the object model comprises Document Object Model (DOM)"** as "the systems and methods of this invention can be implemented based on the DOM that supports inflation of compressed files" (Paragraph 70) and "An xmlzip compatible DOM implementation could open the xmlzip file, navigate through all nodes in the document tree and write out the corresponding ndoes" (Paragraph 74).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Jakopac's** would have allowed **Tang'**, **Unger's**, **and Giradot's** to provide applications to enable large XML files to be directly processed, as noted by **Jakopac** (Paragraph 38).

Response to Arguments

12. Applicant's arguments filed on 02/05/2007 have been fully considered but they are not persuasive.

Applicant argues on page 12, that **"However, proxy 120 of the Tang reference, as admitted by the Office, does not process the decompressed request or generate the request information. Rather, a destination server (i.e. server 130) different form the proxy 120 "processes the request and returns the response to proxy 120". Therefor, the Tang reference does not teach or suggest at least these limitations"**. Applicant's arguments with respect to claims 1, 7, and 35 have been considered but are moot in view of the new ground(s) of rejection. Specifically, the examiner wishes to state that **Unger's** method teaches that a proxy can be located anywhere between the path of a client and server (including the client and server). Moreover, the examiner wishes to state that the server of **Unger** decompresses and

process the request (see "When a remote server 12 receives a request from a proxy with the detectable modified address (URL), it transmits all or part of the requested information in the compiled and compressed form" (Column 14, lines 14-17). Furthermore, the examiner wishes to state that the combination of **Unger's** method with **Tang's** method allows the proxy to be within the remote server.

Applicant argues on page 12, that **"In addition, the Office has not established a *prima facie* case of obviousness because there is no suggestion or motivation to modify the reference or to combine reference teachings"**. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, using **Unger's** method with **Tang's** method provides a method to prevent several inefficiencies such as constantly updating entire dictionaries, breakdowns of large dictionaries, and the inability to optimize dictionaries with large tokens in data compression and transmission, as noted by **Unger** (Column 1, lines 60-67-Column 2, lines 1-14).

Applicant argues on page 12, that **"The stated motivation (Office Action, p.9) of using the teachings of the Unger reference to prevent dictionary inefficiencies is merely a conclusory statement of generalized advantages offered by the Unger reference, not a suggestion or motivation to combine the Unger reference with the Tang reference. Using these overly broad statements to create the claimed combination recited in claim 1 impermissibly uses Applicant's disclosure as a blueprint or in hindsight for the rejection"**. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed

invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. PGPUB 2004/0103407 issued to **Blaukopf et al.** on 07 March 2004. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g., methods to use compression dictionaries for data compression and transmission).

The examiner further notes that the **Blaukopf** reference teaches that the SOAP protocol is associated with wsdl (see Paragraph 7).

U.S. Patent 6,883,137 issued to **Girardot et al.** on 19 April 2005. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g., methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,847,315 issued to **Castelli et al.** on 25 January 2005. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g. methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,434,561 issued to **Durst et al.** on 13 August 2002. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g., methods to use cached compression dictionaries for data compression and transmission).

U.S. PGPUB 2003/0031246 issued to **Heath** on 21 March 2006. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g. methods to use compression dictionaries for data compression and transmission).

U.S. Patent 6,088,699 issued to **Gampper et al.** on 11 July 2000. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g., methods to use compression dictionaries for data compression and transmission).

U.S. PGPUB 2002/0078241 issued to **Vidal et al.** on 20 June 2002. The subject matter disclosed therein is pertinent to that of claims 1-3, 5, 7, 9-14, 18-22, and 35-41 (e.g., methods to use compression dictionaries for data compression and transmission).

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi
Patent Examiner
Art Unit 2168

April 25, 2007

Leslie Wong
Primary Examiner

TIM VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100